1: Freeman E-5 (1949-1951)1955 OC6 Iban OC6

241. In reading this summary of Iban modes of *padi* consumption it must be constantly borne in mind that we are dealing with what is primarily a subsistence economy. Year by year each *bilek* family is compelled to adapt its standard of living to its available resources of *padi*. In the event of a poor crop, a household will abandon any plans it may have had for the staging of a *gawai*, will cut down temporarily on its flock of chickens, only perform the bare minimum of seasonal rituals, and make but little *tuak*. To some extent this situation may be alleviated by the existence of cash crops such as rubber, or the availability of jungle produce (e.g. *rotan*, *getah*, *jelutong*, etc.) which may be gathered and marketed with Chinese traders. Furthermore, most Iban families possess property (in the form of gongs, jars, etc.) which, in emergency, can be exchanged for *padi*. When their crops fail, wealthy households are often prepared to sacrifice property in order to go on eating rice, but many—and especially the less well off—take to a diet of sago, eked out by other jungle foods.

Annual Requirements in Padi of the Average Bilek Family

242. We are now in a position to give a general estimate of the yearly requirements in *padi* of an average *bilek* family, of 5 members. It should be realized however, that what follows represents an estimate of the bare needs of an average household. Every *bilek* family hopes for a surplus over and above these bare requirements; but, as we shall see, in unfavourable years many households do not attain their minimum requirements. The general needs of the household we may list as follows:

(*a*)	*padi* required as seed for next season	30 gantangs
(*b*)	*padi* required as food for fowls	40 gantangs
(*c*)	*padi* required as dog food	30 gantangs
(*d*)	*padi* required for rituals, offerings, etc. ..	20 gantangs
(*e*)	*padi* required for *tuak*	10 gantangs

The food requirements of five people—accepting the average of 88 gantangs per head per annum—would be 440 gantangs. Thus, the total amount of *padi* needed by a household of five members would be 570 gantangs, or 114 gantangs per head per annum.[1]

243. This may be accepted as a general average, but once again, it is instructive to note the variations likely to occur, even with a family of only five persons. Let us take three examples from Rumah Nyala. Majau's family (No. 13, with a man, a woman, two children and a suckling) would require only 320 gantangs of *padi* as food, and a total of 450 gantangs. Unyang's family (No. 18, with two women and three children) would need about 360 gantangs as food, and a total of 490 gantangs. Gayar's family (No. 8, with two men, two women and a child) would require 470 gantangs as food, and a total of 600 gantangs.

244. Let us now consider whether these various estimates of yearly requirements are consistent with our data on farm acreages and yields. We have estimated the average area farmed by a household of five members to be about 4 acres. Therefore, to attain a yearly requirement of 570 gantangs (the general estimate quoted in Para. 242 above) a yield of between 17 and 18 bushels per acre would be necessary. For Majau's *bilek* family a yield of only 14 bushels per acre would be required however; for Unyang's about 15 bushels per acre; and for Gayar's almost 19 bushels per acre. These figures, it will be seen, fall within the range of typical yields per acre recorded earlier in this report.

[1]N.B. This is considerably lower than the estimate of 940 gantangs per annum (for a family of 4) given by Mr. R. W. R. Miller ("Sarawak Gazette," 1950, p. 36).

1: Freeman E-5 (1949-1951)1955 OC6 Iban OC6

of land usage are complex. There is however, one general feature of especial significance: *a marked tendency (particularly when working virgin forest) to farm land for two years in succession, before letting it revert to secondary jungle.* I want to stress the prevalence of this practice from the outset, for it is of the greatest consequence that Government officers should be fully aware of its existence. In the past there seems to have been a general impression that after each harvest "a bush fallow period of from 12-15 years" was always observed before another crop was taken. When I first reported the existence of '*krukoh farming*' (i.e. the taking of two consecutive crops from the same piece of land), I was told, by officers of experience, that I was mistaken for it was well known that the Iban did not farm in this way. Yet, as we shall see, *krukoh* farming is a time-honoured Iban custom, which has had a most deleterious effect on hundreds of square miles of land—in the Third Division and many other parts of the territory of Sarawak.

The Predilection of the Iban for Virgin Jungle

265. Every land usage cycle begins with the felling of virgin jungle. During the past hundred years, many thousands of acres of primeval forest in the Rejang basin have been felled by Iban axes, and in the Baleh (and other similar pioneer areas) this onslaught is still going on. From the historical survey (presented in Part II of this report) of the Iban occupation of the Batang Rejang and its tributary rivers and streams, it emerges clearly that the Iban are a virile and resourceful people with an insatiable appetite for virgin land. The motives which prompt this appetite are many. Foremost is the knowledge that, given good weather, two and more crops of exceptional abundance may be harvested from an *umai kampong*. In their prayers (*sampi*) at the time of *pemanggol*, the Iban ask for:

> "Land that is fat, fat in deep layers,
> Luxuriant land, land that is fruitful,
> Soil soft and fecund, land richly fertile;"

and they know that this is most likely to be found in tracts of *kampong*, on untouched slopes and terraces, where the humus of centuries lies thickly. The labour expended on an *umai kampong* is heavy, but it holds high promise of a surplus—a surplus that leads to property and prestige and all the other things most desired by Iban hearts.

266. By felling virgin forest a family obtains rights of ownership over land, rights of usufruct over the secondary jungle which in due course springs up; and by Iban *adat* these rights are permanently vested in the family and its heirs for as long as they elect to exercise them. Among shifting cultivators like the Iban land is of pre-eminent importance. Land is wealth, and upon its land holdings depend the prosperity and indeed, the very subsistence of a *bilek* family. Under these conditions access to virgin territory is a prerogative of the utmost consequence, for it presents a family with the opportunity to expand its wealth and attain a position of economic security. There is no need to wonder at the "land-rush" which marked the opening of the rich forest lands of the Baleh to Iban settlement. The well-being of many an Iban family springs from the privileged position it gained in that scramble.

267. The cultivation of virgin jungle brings innumerable minor advantages. Timber for building, for making canoes and a score of different implements, *rotan* for mats and baskets, palm fronds for thatching, iron-wood for roof shingles, resin for lighting, bark for *padi* bins—all these things lie close at hand. Indeed, the whole material culture of the Iban is based on the rain-forest, and in

7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

000 themselves. One day they came to me and said they had met such a nice Chinese shopkeeper, from whom one of them had bought a silk jacket. He was such a pleasant man, and his things were so cheap, that they had quite made up their minds to visit his shop again. I asked to see the silk jacket they had bought. It was brought to me carefully wrapped up in Chinese brown paper, and the parcel, being opened, was found to contain a cotton jacket! When the purchase was made, the "very pleasant shopkeeper" kindly bundled it up for them, and this was the result. I told them that they had been taken in, and that there was no help for it, and that they must always be on their guard against the Chinese shopkeeper. But my words were wasted. They were quite positive that there was some mistake. It was quite absurd to imagine that such a nice Chinaman would think of swindling them. All that had to be done was to go back to the shop and explain matters, and everything would be put right. They did go back to the shop, and returned with long faces. The nice Chinaman said he did not remember selling them a silk jacket; they must have mistaken the shop. Was there anything he could sell them? Needless to say, they bought nothing more from that shop, and returned "sadder and wiser men."

314 484 Gutta-hunting is a favourite method of the Dyaks for earning money. A party of them go to the Malay Peninsula, or Sumatra, or Java, and stay away for months or even years, and do not return until they have accumulated some hundreds of dollars. Before starting for such a journey they have to consult the omen birds, and if these are favourable, they start off with a little money for their expenses, taking with them the few tools neces-

7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

sary for their work. They go to some town, and from it they make journeys into the surrounding jungle, returning after intervals of a month or more to sell the gutta they have succeeded in obtaining, and to buy provisions.

The way in which the Dyak works gutta is this :—He wanders in the jungle till he finds a gutta-tree. He cuts it down, and rings it neatly all along the trunk and branches at intervals of a foot or two with a kind of hollow chisel that he brings with him for the purpose. Under each ring he puts a leaf made into a cup to catch the milk-white sap which slowly exudes. Into each of these he puts a little scraped bark of the tree. Then he collects all the sap, and boils it until the gutta is precipitated at the bottom of the pot like a mass of dough. This is taken out while it is still soft, placed upon a board, and kneaded vigorously with the hands, and afterwards trodden with the bare feet. When it is almost too stiff to work, it is flattened out carefully, and then rolled into a wedge-shaped mass. A hole is punched through the thin end, through which a string is put to carry it, and it is ready for sale. This crude gutta has a mottled or marbled light brown appearance, which is given to it by the scraped bark which is mixed with it. The juice of the wild fig-tree (*Ficus*) or of the different species of bread-fruit trees (*Artocarpus*) is sometimes used to adulterate it.

Sometimes, instead of working gutta, the Dyaks earn money by collecting canes, or *rotan*. A journey is made by a party of them to some jungle region where canes abound, and they collect the various marketable species of the genus *Calamus*. These canes are creeping plants the stems of which are covered with a hard flinty bark.

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222 would imagine that there would be a danger of over-collecting, and that the number of birds would diminish ; but the natives say there is no danger of this, as the birds carry on their breeding in nooks and crannies inaccessible to the collectors.

● 314 Another jungle industry is the hunting for camphor. The kind the Dyaks obtain is known as "hard camphor," and is found in crystals in the hollow trunk of a tree. It is much more valuable than ordinary camphor.

314 787 784 Before going out to collect camphor, the Dyaks live in little huts in the jungle, and listen to the omens of birds, just as they would do before going out gutta-hunting. If the omens be favourable, then they start off, being careful not to use in conversation certain words which are considered "taboo," or *mali*. It is forbidden to use the word "camphor," or to mention the names of the implements used in working it, or of any races, such as the Chinese, Malays, or Europeans, because these will have something to do with the selling of the camphor later on. If the spirits who own the camphor know what the men are after, or that their property is likely to be taken away and sold to distant lands, they will carefully hide it, and the camphor workers will never be able to find it ; so the Dyaks have to use other expressions to express the articles whose names must not be mentioned. "Camphor" becomes "the thing that smells," and so on.

314 784 The Dyaks, as well as the Malays, believe that to be careless and to make use of any forbidden word is sure to result in failure to find camphor. Even if a tree containing camphor is felled, they say that the crystallized camphor will become liquid, and therefore useless.

314 When a camphor-tree is found in the jungle it is chipped

7:Gomes M-5 (ca. 1890)1911 OC6 Iban OC6

with an axe between two buttresses, and the wood smelt. If the wood smells very strongly of camphor, then it is likely that the trunk is hollow, and there is crystallized camphor-gum inside it. They tap the trunk to find out how far up this hollow extends. The tree is cut down at this place, and the stump remains standing. The wood is then split down on each side. There is a good deal of uncertainty in the finding of camphor. If lucky, the workers may find the whole of the hollow trunk from four to seven feet deep full of crystallized camphor. On the other hand, the hole in the wood may be quite empty, except for a little liquid gum at the bottom, which is useless. This crystallized camphor fetches a good price in the Chinese market. The Chinese value it very highly for medicinal purposes, and as much as fifty dollars or more is given for a *katty*—a pound and a quarter—of it.

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[Facing p.290]

A Dyak Girl

Seated on a mat and folding up a petticoat before putting it away. The girls are very careful of their clothing and are often very vain, but when they are married they frequently become very untidy. A woman's wardrobe is not extensive. It consists of two petticoats and one jacket as a general rule.

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Scraping Palm Leaves for Fibre

With this the women tie up the threads they weave, so that when they are dipped in any particular dye the parts which are tied may not be affected by the dye. It is by this means that the different patterns in Dyak cloth are obtained.

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291 second from the left and shrews and spiders on the second from the right, which also shows clearly the way the garment is folded when worn. Three figures show the corset, *rawai*, and the girdles of coins round the waist outside it. Two women have bead necklaces and the two on the right wide bead collars. The jackets of the two women to the left are of imported material, but the central figure wears a *kalambi* of striped native cloth somewhat similar to Z. 2342, which is described briefly on p. 37. The tall girl, second from the right, is a Kayan who lives with an Iban family.

THE PRODUCTION OF CLOTH

The garments worn by the Iban, whether petticoats, coats, loin-cloths or shawls, as well as their blankets, are made either from bark-cloth or hand-woven cotton stuff; the latter material is usually of native manufacture.

BARK-CLOTH

287 The bark-cloth is the cheaper material, and garments made from it are therefore worn when working in the jungle and by those who cannot afford woven cloth. "The old blankets, curtains, waist-cloths, and coats of the Dyaks were made of bark-cloth" (*S.D.D.* p. 133).

287 There are several sources from which suitable material for making bark-cloth can be obtained: the *pedalai*, bread-fruit tree (*Artocarpus* sp.), and a 314 tree of a similar type called *tekalong* provide bark which can be wrought into loin-cloths, strips of about 10 ft. in length being obtainable when the trees are mature (*Sarawak Gazette*, 1894, p. 146).

The Kayans use the inner bark of a tree which they call *tajam*, but is called *ipoh* by the Iban. According to the Catalogue of the Brooke Low Collection this appears to be identical with the *upas* tree of Java, *Antiaris toxicaria*. In the *S.D.D.* (p. 60) it is stated that "there is another species of tree called *ipoh*, a sort of bread-fruit, the bark of which is made into white blankets, *pua*". Hose and McDougall (1, p. 220) state that cloth "is made from the bark of trees of several species (principally the *Kumut*, the *ipoh*, and the wild fig)".

287 The process of making the bark-cloth is to peel off the bark in broad strips, soak it well in water and then hammer it out with a heavy wooden

283 386 The following technique is employed for the production of the pattern-dyed cloths which have a rep or poplin weave, that is, the warps form the surface of the cloth.

The patterns are produced by a resist method, the parts of the web to be [824] reserved from any dye being tied with a dried strip of a fibrous leaf known as *lemba*. This fibre is stripped from the underside of a broad-leaved plant with yellow flowers (*Curculigo latifolia*) which grows in great abundance on old cultivated fields near houses.

As the continuous warp is wrapped right round the cross bars there is an upper and a lower web; the threads from both are tied together and so a repeat of the pattern is obtained. A skein of the *lemba* fibre can be seen attached to one of the lower cross bars in pl. XXVI, A.

As will be evident from the elaborate designs shown in the *bidang* and *kalambi* cloths illustrated later, quite a small number of warps may be tied together, six or eight, and the distance tied up may be very short. The work is often highly skilled and the women usually work from memory without the aid of any pattern, although the Rev. A. Horsburgh (1858, p. 43) says "the Balaus women sketch out the design on the extended web", see Gomes (1911, p. 52). A portion of the tied-up warp is shown in pl. XXVI, B.

When all the parts intended to be left undyed are tied up, the looped ends of the warp are also tied tightly, although already held securely by the [314] numerous wrappings. The web is then immersed in the dye bath, which is most probably of a brown colour from *pinang* (*Areca catechu*) or of a richer red brown from the mangrove. After soaking in the dye for the required length of time, which may be a few hours or several days, according to the depth of colour needed, the web is stretched out to dry in a shady place. When dry the fibre is cut and stripped off and the design then appears in the natural colour of the cotton, on a dark-brown background.

Several dyeings sometimes take place so as to produce a number of shades and colours.

The yarns for the self-coloured stripes in the borders are dyed separately, and when all are dry the web is set up in the loom with these specially dyed yarns arranged to form warp stripes.

The following description of the technique of warp tie-dyeing is taken from Howell (1912): The first process of *kebat* [or *ikat*, "tying"] is to retain the

white colour of the future pattern. After this is done the *kebat* thread is taken out of the *tangga ubong* and dipped into *engkerbai* water for a night and then dried; this is a mixture made by boiling the leaves of the *engkerbai* shrub and mixing some *chunam* [lime] with it; this gives a reddish colour to the thread. After it is quite dry the thread is fixed again to the *tangga ubong* and *kebat* for the second time. This second *kebat* is to retain the reddish colour for the pattern, and is called *mampul*. The thread is again removed and dipped into *tarum*, indigo water, which is made from the indigo plant in the same way as the *engkerbai* water; this gives the exposed portions of the thread a black colour. After it is quite dry it is fixed for the last time to the *tangga ubong* to undergo *ngetas tampok lemba*, "the cutting off of the knots", that is, the cutting of the knots of *lemba*. This accomplished, the thread is carefully put into the loom for weaving.

The use of tie-dyeing by other peoples is mentioned on pp. 138–142.

WEAVING

The *tumpoh* or loom used for weaving is extremely simple, being the most primitive form in Indonesia (Ling Roth, 1918, p. 65). Its component parts are a warp beam, breast beam, heddle, shed stick, beater-in, a back strap, and two or four laze rods (fig. 4). As there is no rigid framework the warp beam can be set up wherever there are two convenient upright posts, usually on the *ruai*, the verandah or long reception room. The breast beam, being attached to a back strap that goes round the weaver's waist, lies almost in her lap and so by a slight movement of her body she can manipulate the tension on the web (fig. 4).

The warp is wrapped continuously round the warp and breast beams and the threads are prevented from becoming entangled by one or two pairs of laze rods, the odd threads or odd groups of threads being first lifted and one rod passed through, and then the evenly numbered threads are lifted and another rod is passed through the new shed. The ends of each pair of laze rods are usually tied together by a cord. Cane heading rods are also frequently used at the commencement of the weaving to keep the warps evenly stretched. There are generally a few rows of weaving between the two rods, if more than one is used. The raising of alternative warps, or groups of warps, is effected by a shed stick and the single heddle, to which one set of

12: Haddon & Start E-4 (no date) 1936 OC6 Iban OC6

are illustrated. Gomes, 1911, pls. pp. 52, 128. Hose and McDougall, 1912, I, pp. 221, 223, drawing of a *bidang*, fig. 61, photographs of *pua*, pls. 131, 132; owing to the process employed in reproduction the positions of the women are reversed in plates 118–121, thus the right hand appears to be the left hand. In Hose, 1926, they are shown correctly in the pl. facing p. 182; photograph of part of a *pua* and of a *bidang*, pl. p. 183.

DYES

The range of colour used by the Iban in dyeing their cotton yarn and tied-up webs is limited; shades of brown, from a pale buff to a vandyke, most frequently form the backgrounds to the patterns; the most effective is a reddish brown; brown is also the usual colour of the yarn used as weft.

For the brightly coloured stripes, generally found near the selvedges of the cloths, yarns dyed red, yellow, black, pale blue, or green are used, and sometimes an unusual effect has been produced by dipping a cloth which already has such stripes in an indigo bath.

All the dyes used in the cloths described are vegetable in origin and either act by oxidization or in conjunction with some simple alkali, such as wood ash or alum. Hose and McDougall (I, p. 222) say: "lime and gypsum are sometimes mixed with the watery extracts as mordaunts but these are probably modern refinements"; but Perkins and Everest (1918, p. 463) state that "at an early date in India and the Far East such other mordants as naturally occurring sulphates of aluminium and iron were used".

The rich reddish brown so successfully exploited by the Iban is obtained from the bark of the mangrove or of the *samak* tree and is a favourite colour with the Saribas women, who make the best fabric. A dark purple is obtained from the leaves of the *tarum* (indigo) plant. Many shades of duller brown are obtained from the *pinang*, *Areca catechu*, which may also be used as a mordant for other dyes. The catechu is dissolved in boiling water, the yarn is immersed in the hot bath of liquid from a half to a full hour for light shades of brown and steeped overnight for dark shades. The colour is developed with the liquor obtained from wood ash.

Yellow is obtained from turmeric and wood of the Jack-tree (*Artocarpus integrifolia*), known to the Iban as *pedalai*. This wood is rasped and used in

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conjunction with an alkali. The Javanese use this wood together with alum in dyeing their *batik* patterns. An aqueous solution of the wood if heated with an alkali gives a beautiful blue.

Blue is usually obtained from the leaves of various species of *Indigofera*, which are soaked in water for 12 hours. During this time bacterial fermentation takes place and begins to form a yellow liquid which is run off. This is areated by agitation; it first turns green and then blue.

If the leaves of the *Indigofera tinctoria* are used the presence of an alkali is necessary in the water, as the glucoside which is contained in them splits up into indigo and sugar, and without the alkali the indigo is insoluble in the water. Under the right conditions it becomes indigo white, which oxidises on exposure to air into indigo blue.

Ling Roth (II, footnote p. 37) quotes von Donop's reference to a small shrub called *home*, the leaves of which resemble *Cinchona succirubra* and are sometimes used in place of indigo; the leaves are boiled and the cloth immersed in the liquor.

The scarlet yarn used in the self-colour stripes is generally procured from the Malays, but a brilliant red is also obtainable from the ratan *jernang*. The dye is made from the scales which cover unripe fruit of this species of ratan ("*Calamus didymophyllus*, or, perhaps, *Damonorops draco*, called Dragon's blood", *S.D.D.*).

Green is obtained by over-dyeing a yellow with light blue, either indigo or that obtained from an alkaline aqueous solution of jack-wood (*Artocarpus integrifolia*). In the latter case both colours, the yellow and the blue, might have the same source.

A black dye can be made from the large juicy leaves of a Melastomacea (*Medinillopsis Beccariana*). Beccari (1904, p. 277) says that the Tubao Kayans use the juice of these leaves to blacken their teeth.

The effect of black can also be secured by over-dyeing indigo on a red-brown. The latter method appears to be the one most frequently adopted by the makers of the cloths in the collection.

The *S.D.D.* gives *ladu*, mud found in down-river streams and used as a black dye for petticoats.

When any yarn has been dyed it is spread out in some shady place to dry.

The Iban usually dye the background colour first, whether it be a light or reddish brown, reserving the pattern so that it appears light or white; darker spots and other colours are the result of a second dyeing. 386 314

W. Howell (1912) says that *kain chelum*, black cloth, is obtained by dipping the cloth into *engkerbai* water for a night; after washing and drying it is soaked in *tarum* water (indigo). *Kain mata* or *ubong mata*, the unripe cloth or unripe thread, is the undyed material.

The thread of *kain engkudu*, "the red cloth", is called *ubong embun* because it has to be exposed to the dew, *embun* (*ambun*), for so many nights, the exact length of time depending on the woman who conducts the operation. The dyeing of the *kain* or *pua mansau*, *engkudu* or *embun* is done in the following way: "After being first dipped in saffron water, *kunyit* [turmeric], it is subjected to the following concoction: (i) *kapayang* oil, made from *kapayang* (*Pangium edule*) seeds burnt and pounded in salt, and for proper preservation there should be plenty of salt; (ii) *klemintin* fruit; (iii) *klampai* fruit; (iv) *engkringan* fruit; and (v) ginger, all burnt and pounded in the same way. These are carefully measured out with a cocoanut shell in the correct proportions, and are then put into a wooden trough containing cold water. After this concoction has been well stirred and mixed the thread is dipped into it for twenty-four hours, during which time great care is taken to see that it is well saturated. It is then taken out and stretched on a mat for twelve hours and afterwards put out on the outside platform (*tanjeu*) for sixteen days, so that the sun and dew may complete the process. It should be noted that although dew is apparently regarded as a necessity, great care is taken to prevent the newly-dyed thread from getting wet from rain, and on the slightest suggestion of a shower, either by day or night, the thread is taken into the house. After eight days on the *tanjeu*, the thread is turned, so that the other side may receive similar treatment for the remaining eight days. The dyed thread is now washed, dried, dipped in rice gruel, combed and rolled into balls ready for weaving." 386 314 463

"The mixing of this particular dye is supposed to be very difficult and perhaps only one in fifty knows much about it. The woman who becomes the recognized authority on this subject takes the name of 'Orang tau nakar tau ngar', which means 'She who knows the secret of measuring out the drugs in order to obtain the rich colour', and for this work she is well paid, the 386 463

177 439 was derived first from jungle produce, then rubber, and more recently, timber. Jungle produce provided the main source of income up until about 1910, when rubber took over until about 1964 when its primacy was supplanted by timber. Jungle produce and rubber continue to contribute to the economy of indigenes and Chinese, but during the past two decades Sibu's take-off has been based on the exploitation of timber.

1. Jungle Produce

176 439 314 For centuries the people of Borneo supplied mixed forest produce - rhinoceros horns for their alleged aphrodisiac qualities, kingfisher feathers, bezoar stones, damar (resin), camphor from the Borneo camphor tree, and casques of the helmeted hornbill, once more valuable than jade - to Chinese traders who brought beads, iron, crockery and the enormous earthenware jars (tajau) found as heirlooms in every longhouse. Chinese and Malay merchants penetrated the Rejang Valley long before permanent settlements were built, for this region had an abundance of the forest treasures, wanting only for collection.[7]

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[7] On the treasures of the Rejang forests, the Ranee Margaret wrote: ". . .The Chinese are supposed to have been the first to discover camphor, and Sibu bazaar is one of the principal ports for it in Sarawak. . . The Rejang River is rich in many articles of export; indiarubber, gutta-percha, beeswax, mats, ebony, beads, and geliga or bezoar stones, the latter being found in the stomach of three species of monkeys." (1913-255).

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The jungle products originally were collected by the various indigenous groups of the interior, and the collection still is largely confined to these groups. These goods were traded or bartered with Malays and Chinese for salt, cloth, iron and luxury items at coastal stations and were related to the tradition of bejalai or the adventurous status-validating trips of the Iban male. After the introduction of money, the sale of such products was important to the indigenes because it was the single way they had of obtaining hard cash, a value quickly accepted by them. Thus there developed a symbiotic relationship between the Ibans and other indigenes who supplied the forest products, the Chinese and, to a lesser extent, the Malays, who supplied essential items such as salt, iron, and cloth, and luxury goods.

000 Similarly, the outstations of the Brooke administration were largely dependent upon revenue derived from duties on the export of jungle products. The outstations were expected to be self-supporting and to contribute towards the support of the central administration in Kuching, and it is no overstatement that the Brooke Raj was supported from this export trade.

The earliest readily available reports on trade are for 1871, when Sarawak included the territory from Tanjong Datu to Tanjong

000 appeared in the trade returns for 1900 and has continued to be an important export until the present time. The jelutong tree grows wild and customary tapping rights are clearly recognized. The latex is coagulated with phosphoric acid and molded into cylindrical blocks approximately 15" x 18" x 15" and about 100 pounds on average. Prices vary according to whether jelutong is purchased in rural areas, where it tends to be generally wetter and brings a lower price, or in Sibu where it is drier, having lost moisture during transportation, and so bringing more on the market.

● 314 [137] The lowland tree or jelutong paya (Dyera lowii) is fairly evenly scattered throughout the mixed swamp forests and yields a latex which flows much more freely than that of the upland tree, jelutong bukit (Dyera costulata) of the lowland forests. Attempts at planting jelutong gardens have been disappointing, and the collection is likely to remain a matter of indigenous tappers working trees in [439] their natural habitat. With the low prices of rubber at the time of this writing, bringing about $ .15 per kati, the collection of jelutong and other jungle products is more profitable than rubber-tapping for some Ibans.

000 Rottans have been an important item since 1870, being exported for the manufacture of furniture and used similarly by a few craftsmen within the state. Prices on rottans have been very variable, depending

upon the demand for their use locally in securing lografts timber trade, as well as for export for the manufacture of furniture.

Another product of occasional but unpredictable importance to both indigenes and Chinese is the illipe nut, a seed of various species of Shorea (Iban, engkabang). Most of the crop comes from the Rajang basin. The seeds are a source of a very high quality polyunsaturate vegetable fat and are exported mainly to the United Kingdom where the fat is extracted and used principally in the manufacture of chocolate and, to a lesser extent, in cosmetics. Ibans express the fat which is molded into margarine-like blocks and eaten as a delicacy with rice.

The illipe nut is a highly unpredictable crop, really heavy seeding occurring on an average of once in four years. Only a fortuitous combination of soft rains and gentle winds allows the fruit to set, and more often heavy downpours and gusting winds during the northeast monsoon destroy the flowers. In the peak years of 1959 and 1962, exports amounted to 22,000 and 20,000 tons, valued at M$20 million and M$16 million respectively.[10] When a heavy crop occurs, Ibans and other indigenes take to the forests to collect as many as their boats will hold.[11] Browne writes that

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[10] Heavy crops also have been recorded in 1919, 1923, 1929, 1931, 1935, 1947, 1954 and 1970.

[11] And not infrequently more than they will hold. Overloading has cost several people their crops, boats, and motors every time of heavy crops.

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"a good nut-year is a great event in Sarawak and provides a literal windfall for the native tribes,"

439 and, it should be added, for the Chinese shopkeepers, for the "windfall" quickly ends up with the Chinese merchants who have staked the illipe nut gatherers and collect their loans, or purchase the nuts while selling outboard motors, sewing machines, gold and other valuables to the Ibans.[12]

423 439 Sarawak abounds in fruits, and the trees are held under customary rights. Ibans and other indigenous groups collect the fruits when they bear, and either sell them to Chinese hawkers or bring them to town to sell. We will give more attention to this in Chapter Four.

2. Rubber

175 177 249 Para rubber (Hevea brasiliensis) was first introduced into Sarawak in 1882 when Bishop Charles Hose planted one seedling in Kuching.

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314 243 [12] The relative abundance of forest products and especially illipe nuts when they are bearing has been a significant factor in the casualness with which many indigenese approach rice-cultivation. Prior to the planting of rubber and pepper in this District, men took off to collect jungle produce in the period between planting and harvesting rice. Bailey described how Malays in the Lingga area gave up rice-cultivation for collecting and fishing, finding the task easier and more pleasant (SG 2 June, No. 437, 1902). Sometimes rice has been neglected to the extent that crops are lost, as one Resident complained: "What I feared might happen has come to pass, the padi having been deserted by the Dyaks for the easily collected and remunerative engkabang crop, with the result that the majority of the Dyaks are short of rice and will have to obtain their supplies from other sources. They have plenty of money and will be able to obtain supplies. . . "SG 1 August, No. 839, 1923). Critics of Ibans who favor collecting over rice-cultivation fail to note that the rewards of the former are much more certain at the times when produce is available.

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As stated above, until recently most of the middlemen in the trade network were Chinese. Within the past decade or so, however, an increasing number of Ibans have opened village shops, some quite successfully. The shopkeepers in rural areas who have been able to make a go of their businesses have been those who have not depended on trade alone but with their families have continued to grow rice, to assure their self-sufficiency, and to tap rubber, to have an additional source of income besides that from the shop. The shopkeepers who have looked to trade alone have invariably failed, for the rural traffic in rubber and foodstuffs is inadequate to carry full-time traders.

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The history of rubber trading may be described most easily as extremely variable. This is due to several reasons. First, the local trade is part of the world market, and activities are correlative with going market prices. At times when there has been a great demand for rubber on the world market, trees have been tapped frenetically, latex molded and pressed into sheets, and rushed to the shops. When prices have dropped, tapping declines correspondingly. For example, in the peak years immediately following the First World War, the price on para went to $100 per picul in 1919, only to drop $15 by 1921 owing to a glut. Rubber tapping stopped temporarily. Again, in 1947, no rubber was to be found in the Sibu <u>pasar</u> because of the low price it was

bringing. One year later, 22,000 piculs were exported from Sibu in the one month of November, 1948, and in 1950, Government reports complained of the problems of recruiting labor and predicted the failure of rice crops that were neglected by planters taking advantage of the rubber boom. At present, many Ibans are hiring out as coolies for two to three dollars a day rather than tap rubber which is bringing about $45 per picul.[23] When prices are up, rubber is tapped. When it is more profitable to engage in other activities, rubber is left alone.

Another reason why the local trade is variable is the erratic rainfall which has been described (pages 15-19). Rainfall at night or in the early morning makes rubber tapping impossible, and during months of heavy rain the production of rubber drops appreciably.

In addition to rainfall and fluctuating prices, another reason for variations in the rubber trade is the seasonal activities of rice

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[23] The "Annual Report of the Department of Agriculture, Third Division, Upper Rejang, For the Year 1970," contains the following indictment: "Due to the decline in prices down to the 50's the exports of rubber from Sibu and presumably the production went down three fold as compared to 1969. Many small holders have stopped tapping their trees and (are) turning elsewhere for their livelihood. This short sighted policy on the part of our farmers is a definite drawback as it hampers the Government's efforts to stabilise the rubber market." (pages 13-14). The small holder, however, has no alternative other than exploiting the part(s) of his environment which offers the greatest rewards at any one time.

cultivation. During the months of May to August, when clearing and planting takes place, and March and April, when harvesting and storing is done, the time given to rubber tapping is much less than during the other months. In some families with more members, a division of labor is arranged so that both rice farming and rubber production, for food and cash, are carried on.

Still another reason for variations is the tendency at all levels, from tapper to trader to exporter, to speculate and hold back quantities of rubber against a rise in prices which sometimes occurs, though recently not by very much. It is not uncommon to find several scores of rubber sheets hanging in village shops or lesser amounts in the dapor section of a bilik, being held until prices rise or until the owners make a trip to the pasar. Many small holders cannot afford the luxury of such speculation, even on a small scale, and must sell soon after processing the sheets regardless of prices.

The fluctuations in the rubber trade may be seen on the following page in Table 2, in which rubber exports are correlated with the amount of rainfall and prices during the months of 1970. Two other factors must be kept in mind: (1) the months from March to August are times when rice cultivation and harvesting require a major proportion of work, if a successful crop is to be had, and (2) th. prices given are exporters' prices, the small holder receiving considerably less.

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Trade was light and irregular because of two factors: first, the principal items for export were the various jungle products, which were collected on a casual basis according to the inclination of the collectors as well as the signs and seasons.[31] Sometimes the indigenes appeared laden with goods for exchange, more often they did not.

Secondly, problems of shipping related to the distance of Sibu from the sea, and the difficulty of navigating the Rejang with its treacherous sandbars, prevented larger ocean-going vessels calling at the port, and made the trips of ships in and out of Sibu very irregular. Commenting on a voyage of the S.S. Rajah of Sarawak, Baring-Gould exulted that,

> "Captain McDonnell found little difficulty in navigating the vessel round the numerous sand banks in the river, but that the rocks below Sarikei are somewhat of a hinderance as they can only be passed on a rising ride; the depth at low water in places being 12 feet and at high water 24 feet."

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The introduction of rubber and the proliferation of rubber gardens, and to a lesser extent pepper, provided products of more predictable and dependable character than the sometimes casually gathered jungle products.

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[31] A poorly-lined pig's liver, a bad dream, the cry of an omen bird, or a bird's flight from left (raup) instead of from the right (mimpin) could result in a collecting trip's being called off.

The Chinese immigrants were the first to seize upon the potential in rubber, and Ibans were quick to follow their example. For rubber offered a viable alternative to rice, a dependable source of income, albeit mercurial, and an item which always could be exchanged.[32]

By 1920, the pasar was being expanded to handle the increased volume of business, and to provide employment for men either disinclined to horticulture or landless.[33] In March of that year, twenty-four lots for new shophouses were auctioned off on lanes leading off Channel Road.[34] One year later, a "pork and vegetable market" was started, and completed the following year. In November, 1925, a further fourteen shop sites were auctioned, bringing a total of S$44,600. Even at that early date, Sibu's land inflation had begun.[35]

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[32] Even a present with the price of rubber at only M$20 per picul, a large number of Ibans and Chinese continue to tap their trees; for, in the words of one man, "It's either tap or starve."

[33] Cf. SG No. 1167, 31 May, 1955:98, for a discussion of the number of Chinese who entered trade due to land pressures.

[34] Located on what are now Cross and Blacksmith Roads, these lots brought S$43,969 (SG No. 812, 2 May, 1921:107).

[35] Land in the Sibu pasar is sometimes calculated by the square foot as, for example, when the Sarawak Electricity Supply Company wanted to buy a small section of land for its purposes and paid several thousand dollars for about twenty square feet.

their food supply. Gathering of jungle produce is still a relatively important work by which fruits, chicle, fibers and a number of other items are brought to market and sold. The collection of vegetable leaves, shoots and cabbages of a number of different palms provides the principal supplements to the staple of rice. And when rice runs out and there is no money to buy more, the much-disliked scarcity food, sago, can be collected and processed.

Fishing is both a leisure activity and a means for catching the most regular and dependable supply of meat in the Iban diet. The Ibans are most adapt at exploiting the rivers and streams along which they live, their techniques depending upon the conditions of the water, the habits of the fish and other aquatic life, and whether they intend to consume the catch personally or to sell it to members of their long-house or in the market. The introduction of fish-ponds has provided a much more dependable source of meat.

Hunting provides a diversion from other activities, but game is not plentiful in this District. Gardening is assuming more importance among a number of Ibans, but the inclination is to plant cash crops rather than vegetables for personal consumption.

The uncertainty of returns from rice cultivation, together with the orientation of Ibans to a cash economy and to goods which can be purchased with money, has prompted members of every longhouse to seek employment.

222 824 The most important fruits commercially include several species of banana (pisang pisang, pisang keling, pisang ambon and pisang mas), plantains (pisang tandok), jackfruit (buah nangka, buah temedak), mango (buah mangga, buah kuini), papaya or pawpaw (buah beti', buah rungan), guava (jambu batu), Malay apple (jambu merah), water apple (jambu ai), mangosteen (buah manggis, buah sikup), oranges (buah limau), pomelo (limau besai), pineapple (buah berunai, nanas), soursop (durian belanda), star fruit buah belimbing), rambutan (buah sibau), and durian (buah rian).[18] The durian deserves especial note because of its incomparable character.[19] [435] The fruit is in great demand and in an off-season, such as during August, 1971, an average size fruit may cost M$ 4 to 5.

314 The chief exploitation of the nipa palm for sugar occurs in the First Division. The Ibans and Malays of the Lower Rajang and Igan Rivers derive income from the manufacture of roofing thatch (attap) from the nipa leaves and coverings (kajang) from the nipa shoots (sumbok). They also manufacture cigarette papers (daun rokok or rokok apong) which, together with the other items, are taken to market when a sufficient quantity has been manufactured.

[231] The sago palm is an important source of fodder for pigs among the Ibans, but has little commercial value to them, as it does among the

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[18] For comprehensive listing, description and scientific names, see Allen, 1967.

[19] An incomparable description of this scatoleous fruit appears in the Encylopedia Brittanica, "Durian."

Malanus who manufacture sago flour (cf. Morris, 1964). Sago palms are held by Iban families under customary rights. The trunk of the palm is sawed into 30 inch lengths, split and rasped (diparut) for pig fodder. Sago also is eaten as a rice substitute when the rice supply is exhausted and Ibans have no money with which to buy more.[20] In the Middle Rejang and its tributaries, where the nipa palm does not grow, the leaves of the sago palm (daun mulong) are used for thatching and coverings. The sago nut (buah mulong) is a part of Iban pharmacology, being highly astringent and used in the treatment of diarrhea.

Numerous reeds grow both in low-lying and higher land, and are collected for the manufacture of mats and baskets by women. The reeds (ui, purun, bemban) are cut and taken to the longhouse where they are alternately dried and soaked until the outer covering (kulit) can be cut away (disimu', dilit) with a sharp, long-handled knife (lungga). The species bemban is the most valuable because it requires great attention in preparation for weaving. It is exposed to dew (diperambun) for five to seven nights in order to achieve the prized lightness of color. If rain falls the bemban is quickly retrieved by the women for rain will blacken the bemban. The weaving of baskets and mats is done by women on the longhouse ruai or covered common verandah. In addition to the

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[20] A period that is described colorfully but dreadfully as maya bulan gantong sendok, "when the rice-ladle hangs (empty over the pot)."